| National and State Resource Concerns and Quality Criteria | | | | |
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| **Natural Resource Concern** | **Description of Concern** | **National Quality Criteria** | **Missouri Quality Criteria** | **Assessment Tools for Quality Criteria Evaluation** |
| **PLANTS** | | | | |
| **Plants not adapted or suited** | Plants are not adapted and/or suited to site conditions or client objectives. | Selected plants are adapted to the soil and climatic conditions or the site is modified to make it suitable for the desired plants. Plants are sustainable, do not negatively impact other resources, and meet client objectives. For specific land uses, additional criteria apply: ***Cropland:*** A healthy stand with vigorous growth. Yields 75% of client expectations. ***Rangeland:*** Plants on or planned for the site are listed in applicable Ecological Site Descriptions (ESD) ***Pastureland:*** Plants on or planned for the site have a site adaptation score greater than 3 using Pasture Condition Scoring (PCS)and are listed in applicable Forage Suitability Groups (FSG)reports. ***Hayland:*** Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG)reports. ***Forestland/Agroforest:*** Plants on or planned for the site are listed in Ecological Site Descriptions (ESD) | Selected plants are adapted to the soil and climatic conditions or the site is modified to make it suitable for the desired plants. Plants are sustainable, do not negatively impact other resources, and meet client objectives. For specific land uses, additional criteria apply: ***Cropland:*** A healthy stand with vigorous growth. Yields 75% of client expectations. ***Rangeland:*** Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG) ***Pastureland:*** Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG) ***Hayland:*** Plants on or planned for the site are listed in applicable Forage Suitability Groups (FSG) reports. ***Forestland/Agroforest:*** Plants on or planned for the site are listed in Missouri Conservation and Tree Suitability Groups (CTSG) | • On-site investigation and records <br> • Forage (Pasture) Suitability Groups (FSG) <br> • JS-AGRON-24 <br> • Client interview <br> • PLANTS database <br> • VEGSPEC <br> • Seeding and Planting Guide <br> • Plant hardiness zone map <br> • Soil pH, drainage class, sodium adsorption ratio (SAR) and electrical conductivity (EC) suitability ranges. <br> • Soil interpretations – Section II <br> • UMC agronomy guides <br> • University Extension Service information <br> • Conservation Tree and Shrub Groups (CTSG) <br> • Trees of Missouri - MDC |

August 2003

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| **PLANTS** | | | | |
| **Plant – Condition – Productivity, Health and Vigor** | Plants do not produce the yields, quality, and soil cover to meet client objectives. | Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs. For specific land uses, additional criteria apply: *Cropland:* A healthy stand with vigorous growth produces at least 75% of site potential. *Rangeland:* The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%. *Pastureland:* Forage yields are at least 75% of high management estimates cited in Forage Suitability Groups (FSG) reports. *Hayland:* Forage yields at least 75% of high mgt. estimates cited in Forage Suitability Groups (FSG) reports *Forestland/Agroforest:* Forests consist of healthy stands with vigorous growth having a stand density within 25% of optimum stocking on a stems/acre basis. Plants chosen for agroforest applications are consistent with Conservation Tree and Shrub Groups (CTSG) listings and height performance. | Selected plants on or planned for the site are sufficiently productive to meet or exceed client needs. For specific land uses, additional criteria apply: *Cropland:* A healthy stand with vigorous growth produces at least 75% of site potential. *Rangeland:* The plant community has a similarity index of at least 60% or an upward trend for similarity indices less than 60%. *Pastureland:* Forage yields are at least 75% of high management estimates cited in Forage Suitability Groups (FSG) reports. *Hayland:* Forage yields at least 75% of high mgt. estimates cited in Forage Suitability Groups (FSG) reports *Forestland/Agroforest:* Forests consist of healthy stands with vigorous growth having a fully stocked stand condition. Desirable species represent at least 25 percent of the stand in volume or density. Plants chosen for agroforestry applications are consistent with Conservation Tree and Shrub Groups (CTSG) listings and height performance. *Wildlife land:* Plant community is managed to meet the needs of the target wildlife species as indicated on the Wildlife Habitat Appraisal Guide Community Models (WHAG-CM). *Recreation land, other land:* Adapted or native plants are in sufficient quantity and quality to improve or protect the defined resource. | • Local agronomy guides<br>• Client interview<br>• Plant tissue and harvest analysis<br>• Crop scouting<br>• National Forestry Handbook<br>• National Range and Pasture Handbook<br>• National Agronomy Manual<br>• Rangeland Similarity Index Worksheet<br>• Forage Suitability Groups (FSG)<br>• Clip and weigh sampling procedure.<br>• Plot sampling of understory vegetation<br>• Soil Testing<br>• Crop/soil yield comparison in the vicinity<br>• Pasture Condition Scoring<br>• Keys for disease and insect symptoms<br>• Keys for nutrient deficiencies and toxicities<br>• Stocking rate of desired species<br>• Plot sampling of understory vegetation<br>• Stocking measurement for the tree stands<br>• Conservation Tree and Shrub Groups (CTSG) |

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| **Plant Condition - Threatened or Endangered Plant Species** | Plant populations and /or habitat quantity and quality have reached a level that one or more plant species are in danger of or threatened with extinction. | Threatened and endangered plant species and/or habitats they occupy are managed to avoid actions that would reduce their current population, health, or sustainability. | Same as National | • Client interviews<br>• Inventory site<br>• General Manual, 190, Part 410<br>• Missouri T&E Impact Matrix<br>• Federal and state endangered species rules and regulations<br>• Missouri Natural Heritage Database<br>• PLANTS Website |
| **Plant Condition - Noxious and Invasive Plants** | The site has noxious or invasive plants present. | The site is managed to control noxious and invasive plants and to minimize their spread. | Same as National | • Client interviews<br>• Site Inventory<br>• State or local noxious weed list<br>• PLANTS Website |
| **Plant Condition - Forage Quality and Palatability** | Plants do not have adequate nutritive value or palatability for the intended use | Forage plants are managed to produce the desired nutritive value and palatability for the intended use. | Same as National | • NIRS Forage Quality Analysis (NUTBAL)<br>• Plant tissue analysis |
| **Plant Condition – Wildfire Hazard** | The kinds and amounts of fuel loadings (plant biomass) pose risks to human safety, structures, and resources should wildfire occur. | Fuel loadings are reduced and/or isolated to meet client needs in minimizing the risk and incidence of wildfire. | Same as National | • Visual assessment protocols<br>• Site and flammable biomass inventories<br>• Aerial photo analysis<br>• Wildfire Hazard Assessment Worksheets |